UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,858	03/14/2002	Bonnie M. Davis	U 013913-4	4479

140 7590 01/04/2007

LADAS & PARRY
26 WEST 61ST STREET
NEW YORK, NY 10023

EXAMINER	
CLAYTOR, DEIRDRE RENEE	
ART UNIT	PAPER NUMBER
1617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/099,858	DAVIS, BONNIE M.	
	Examiner	Art Unit	
	Renee Claytor	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-39* is/are pending in the application.

4a) Of the above claim(s) *5-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-4 and 37-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's response to the Office Action mailed on 5/17/2006 is hereby acknowledged. Applicant's election of the galanthamine species is acknowledged. Claims 1, 3-4 and 37-39 are being examined on their merits herein. Claims 5-36 are withdrawn from consideration. Due to the Election/Restriction requirement made in the previous Office Action, this application is being treated as a Non-final action.

Claim Rejections – 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-4, and 37-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Amendment to the claims in which it is stated "...other than one diagnosed as suffering from Alzheimer's disease...." is not supported in the specification and is considered new matter.

Claims 1, 3-4 and 37-39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating the effects of low LDL-

cholesterol values in the brain on cognitive performance or other central nervous system functions (claims 1, 3-4 and 38) and treating neuromuscular dysfunction (claims 37 and 39) with nicotinic allosteric potentiators, namely galanthamine, does not reasonably provide enablement for treating the effects of low LDL-cholesterol values in the brain on cognitive performance or other central nervous system functions with all nicotinic allosteric potentiators, acetylcholinesterase inhibitors, nicotine, or nicotine agonists. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The instant specification fails to provide information that would allow the skilled artisan to practice the instant invention without undue experimentation. Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors: (1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

(1) The Nature of the Invention: The rejected claims 1, 3-4 and 37-39 are drawn to a method for treating cognitive performance or other central nervous system dysfunctions (claims 1, 3-4 and 38) and neuromuscular dysfunction (claims 37 and 39)

caused by low LDL-cholesterol values in the brain by modulating nicotinic receptors by administration of nicotinic allosteric potentiators, acetylcholinesterase inhibitors, nicotine, and nicotinic agonists.

(2) The state of the prior art: The state of the art regarding treating cognitive performance or other central nervous system dysfunctions and neuromuscular dysfunction caused by low LDL-cholesterol in the brain by modulating nicotinic receptors by administration of nicotinic allosteric potentiators, acetylcholinesterase inhibitors, nicotine, and nicotinic agonists is not well described.

(3) The relative skill of those in the art: The relative skill of those in the art is high.

(4) The breadth of the claims: Claims 1, 3-4 and 37-39 embrace a method for treating cognitive performance or other central nervous system dysfunctions and neuromuscular dysfunction caused by low LDL-cholesterol values in the brain by modulating nicotinic receptors by administering nicotinic allosteric potentiators, acetylcholinesterase inhibitors, nicotine, and nicotinic agonists. The claims are considered very broad because the claims are directed to methods for treating any cognitive performance or other CNS function or any neuromuscular dysfunction caused by low LDL-cholesterol values in the brain, without specifying which dysfunction or disease is being treated.

(5) The amount of guidance or direction presented: In the instant case, the specification discusses the use of nicotinic modulators to be used in the present invention without actual instruction. The specification is enabled for the administration

of drugs that modulate nicotinic receptors in patients receiving statin therapy. However, the specification provides no working examples of treating all cognitive impairments or all neuromuscular dysfunctions caused by low brain LDL by modulating nicotinic receptors by administration of nicotinic allosteric potentiators, acetycholinesterase inhibitors, nicotine, or nicotine agonists. Note that lack of a working example is a critical factor to be considered, especially in a case involving an unpredictable and undeveloped art. See MPEP § 2164.

(6) The presence or absence of working examples: Applicant's disclose several nicotinic modulators for use in this invention; however, there are no working examples proving their actual effects on cognitive performance or neuromuscular dysfunction.

(7) The quantitation of experimentation necessary: As stated above, the rejected claims 1, 3-4 and 37-39 are drawn to a method for treating cognitive performance or other central nervous system dysfunction and neuromuscular dysfunction caused by low LDL-cholesterol values in the brain by modulating nicotinic receptors by administration of nicotinic allosteric potentiators, acetylcholinesterase inhibitors, nicotine and nicotinic agonists. The specification provides no working examples that nicotinic modulators will effectively treat cognitive performance. Applicant fails to provide information sufficient to practice the claimed invention, absent undue experimentation. Genetech, 108 F.3d at 1366 states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful

conclusion" and "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-4 and 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of "treating the effects of low LDL-cholesterol values in the brain on cognitive performance or other central nervous system functions..." and in claim 37, the recitation of "treating neuromuscular dysfunction resulting from the use of HMG-CoA reductase inhibitors..." render the claims ambiguous. It is not clear as to what conditions or dysfunctions the Applicant is referring to or what type of effects Applicant is referring to (claim 1). The specification fails to describe the metes and bounds of these claims, accordingly clarification is needed.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-4 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (U.S. Patent #4,663,318) in view of Kivipelto (BMJ (2001) 322: 1447-1451) and Simons et al. (Neurology (2001) 57: 1089-1093).

Davis et al. teach that galanthamine is useful for the treatment of Alzheimer's disease (see whole document).

Davis et al. does not teach the use of galanthamine for treating the effects of low LDL-cholesterol caused by statins.

Kivipelto et al. teaches that high serum cholesterol increases the risk of Alzheimer's disease (pg. 1449, first paragraph and Table 2).

Simons et al. teach that there is a decreased prevalence of Alzheimer's disease associated with the use of statins (pg. 1091, paragraph 2). It is taught that statins cross the blood-brain barrier and decrease de novo cholesterol synthesis by inhibiting HMG-CoA reductase (pg. 1091, paragraph 2).

It would be obvious to one having ordinary skill in the art at the time of the invention to add to the drug regimen of an elderly patient that suffers from a cognitive disorder and is taking statins for hypercholesteremia, an effective amount of galanthamine to improve cognitive behavior because Davis teaches that galanthamine is effective in treating Alzheimer's disease, which is a disease of cognitive impairment. One would have been motivated to do so because the prior art teaches that high levels of cholesterol and Alzheimer's disease are related (as taught by Kivipelto), and that patients receiving statins for hypercholesteremia have a lower incidence of Alzheimer's

disease (as taught by Simons); therefore, one would have a reasonable expectation of success with treatment of galanthamine for a cognitive disorder.

Furthermore, Applicant has not provided any evidence showing the criticality of cholesterol levels at 109 mg/dl. Accordingly, identifying suitable patients by observing their cholesterol levels during hypercholesteremia treatment would be achieved by routine experimentation.

Conclusion

No claims are allowed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renee Claytor whose telephone number is 571-272-8394. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Renee Claytor

SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER